

**IN THE UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF PENNSYLVANIA**

JENNMAR CORPORATION,	)	
	)	
Plaintiff,	)	
	)	
v.	)	02: 07-cv-1529
	)	
EXCEL MINING SYSTEMS, LLC,	)	
	)	
Defendant.	)	

**CLAIM CONSTRUCTION ORDER**

Plaintiff, Jennmar Corporation (“Jennmar”), and Defendant Excel Mining Systems, LLC (“Excel”) are both in the business of manufacturing and selling mine roof and sidewall (or “rib”) support systems. Jennmar is the owner of United States Patent No. 7,284,933 (“the ‘933 Patent”), entitled “Square Embossed Roof and Rib Plate,” issued October 23, 2007. Excel markets a competing product called a Spider Plate.

On November 9, 2007, Jennmar filed a complaint which alleged that Excel has willfully infringed upon the ‘933 Patent. Amended complaints were filed in February and March 2008. Excel denies that it has infringed “any valid, properly construed and enforceable claim” of the ‘933 Patent.

The parties disagree on the meaning of numerous terms contained in the ‘933 Patent. The parties have presented a Joint Disputed Claim Terms Chart, which summarizes their competing positions and they have thoroughly briefed these issues (Document Nos. 21, 22, 24, 25). The construction of these disputed claim terms is a question of law that must be resolved by the Court. *See Markman v. Westview Instruments, Inc.*, 52 F.3d 967 (Fed. Cir. 1995). A claim construction

hearing (“Markman Hearing”) and argument was conducted before the undersigned on July 2, 2009 and the issues are ripe for adjudication.

### **Controlling Law**

“It is a ‘bedrock principle’ of patent law that ‘the claims of a patent define the invention to which the patentee is entitled the right to exclude.’ ” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (*quoting Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). Generally, claim terms are given the ordinary and customary meaning that would be ascribed to them by a person of ordinary skill in the field of the invention. *Id.* at 1313. The most “significant source of the legally operative meaning of disputed claim language” is the intrinsic evidence of record, that is, the claims, the specification and the prosecution history. *Vitronics Corp. v. Conception, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). This is because “the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.” *Phillips*, 415 F.3d at 1312. In some cases, the specification may reveal a “special definition” given by the inventor that differs from the meaning the term might otherwise possess. *Id.* at 1316. A specification may also reveal “an intentional disclaimer, or disavowal, of claim scope by the inventor.” *Id.* A person of ordinary skill in the art also looks to the prosecution history of a patent to understand how the patent applicant and the Patent Office understood the claim terms. *Id.* at 1313, 1317. Claim construction is necessary when the terms of the patent require clarification for use in the determination of the infringement. It is not

“an obligatory exercise in redundancy.” *NTP, Inc. v. Research in Motion*, 418 F.3d 1282, 1311 (Fed. Cir. 2005), *cert. denied*, 546 U.S. 1157 (2006).

While claims are to be construed in light of the specification, courts must be careful not to read limitations from the specification into the claim. *Phillips*, 415 F.3d at 1323. Thus, if a patent specification describes only a single embodiment, that does not mean that the claims of the patent necessarily must be construed as limited to that embodiment. *Id.* Rather, the purpose of the specification “is to teach and enable those of skill in the art to make and use the invention” and that sometimes, the best way to do that is to provide an example. *Id.* In *Phillips*, the Federal Circuit acknowledged, “the distinction between using the specification to interpret the meaning of a claim and importing limitations from the specification can be a difficult one to apply in practice.” *Id.*

Courts may also use extrinsic evidence in construing claim terms if it is necessary, so long as such evidence is not used to “vary or contradict the terms of the claims.” *Markman*, 52 F.3d at 980. The Federal Circuit has warned, however, that such evidence is generally “less reliable than the patent and its prosecution history.” *Phillips*, 415 F.3d at 1318. Courts may consider expert testimony, the testimony of the inventor, and prior art, whether or not it is referenced in the specification or prosecution history. *Vitronics*, 90 F.3d at 1584. Courts are also free to consult dictionaries and technical treatises so long as they are careful not to elevate them “to such prominence that it focuses the inquiry on the abstract meaning of the words rather than on the meaning of the claim terms within the context of the patent.” *Phillips*, 415 F.3d at 1321-1322. As the Federal Circuit explained in *Markman*, “[extrinsic] evidence may be helpful to explain scientific principles, the meaning of technical terms, and terms of art that appear in the patent and prosecution history.” 52 F.3d at 980.

## Claims Construction

The '933 Patent generally relates to mine roof and rib supports, and discloses an invention specifically relating to “generally square bearing plates used in connection with a mine roof bolt and a primary support member.” The '933 Patent contains an Abstract, Figures ## 1-16, a background and summary of the invention, an explanation of Figures ## 1-16, and a description of the preferred embodiments of the invention. The issue(s) now before the Court are the construction, or meaning, of several terms which appear in the '933 Patent, which will be addressed seriatim.

### 1. “Bearing Plate”

The '933 Patent makes numerous references to the term “bearing plate.” *See, e.g.*, Summary of the Invention (“The present invention is directed to a mine roof and rib support system and apparatus and generally includes a square bearing plate....”) Jennmar proposes the following construction: **“A plate designed to be used with a single mine roof bolt to provide mine roof support.”** Jennmar contends that this is an established and well-known term in the mining industry, and that “bearing plates” are distinct from header plates, roof mats and roof channels.

Excel originally proposed a fairly similar definition which primarily would have clarified that the plate could be used for roof “or rib” support, and argued that the plate could be used with one or more roof bolts. On the eve of the Markman Hearing, Excel filed a Supplemental Brief which revised its proposed definition. Excel now agrees with Jennmar that the plate is used with a single roof bolt and that the term “bearing plate” has an established and well-known meaning within the industry. However, the parties disagree as to what that “well-known meaning” is. Excel proposes the following construction: **“A plate to be used with a single mine roof bolt to provide**

**mine roof and rib support and having a minimum strength of 20,000 lbf (89.0KN) and as otherwise defined by ASTM standard F 432-95.”**

Each party presented a witness on this issue at the Markman Hearing. John Oldson, Vice President of Research and Development for Jennmar, testified that the ASTM F 432-95 standard provides grade ratings for load bearing, i.e., the amount of force a bearing plate must be able to withstand when used alone. Oldson further testified that a product which did not comport with the minimum load-bearing requirements set forth in the ASTM standard would be an “unrated bearing plate,” but would still be a “bearing plate” nevertheless. Jennmar points to Figures 13 and 14 of the ‘933 Patent, which illustrate that all of the products tested fall far below the minimum ASTM standard. In other words, all of the examples used in the ‘933 Patent to illustrate the benefits of the invention involve unrated bearing plates. Similarly, Column 1 of the ‘933 Patent states that “bearing plates” need not be used alone but may be used “in connection with . . . a primary support member.” Jennmar also introduced a products list of “bearing plates” published by Dywidag-Systems International (“DSI”) (the third major supplier in this industry), in which the first three products do not meet the minimum ASTM standard, or grade rating, for load bearing.

Scott Shapkoff, Director of Technical Services for Excel testified that a “bearing plate” must be a grade-rated plate that can be used stand-alone in a primary pattern in a roof control plan. Shapkoff explained that federal regulations require bearing plates to comply with the ASTM specification and because the minimum rating in the ASTM specification is 20,000 lbf, a product that does not meet that load bearing requirement is not a “bearing plate” per se. Shapkoff testified that he is part of a team that is working to create an ASTM specification for “surface control products,” which would be distinct from the specification governing bearing plates. In Shapkoff’s

opinion, neither the Jennmar Roof and Rib Plate nor the Excel Spider Plate are “bearing plates.” Customers refer to each of these products as “pans.” On cross-examination, Shapkoff conceded that Jennmar and DSI do not share or agree with his definition of “bearing plate.”

After careful and deliberate consideration of the filings of the parties, the arguments of counsel, and the intrinsic and extrinsic evidence presented, the Court finds that Plaintiff’s proposed definition of “bearing plate” is the correct construction, with one caveat explained in the footnote.<sup>1</sup> Excel’s proposed construction would improperly import into the claim a limitation on load bearing capacity which is in no respect recited or mentioned in the ‘933 Patent. Indeed, all of the examples in Figures 13 and 14 of the ‘933 Patent involve non-grade-rated products. Further, the Patent explains that a “bearing plate” may be used in connection with a “primary support member” – it need not meet the ASTM specification on its own. Thus, the Patent clearly indicates that the inventor considers the term “bearing plate” to include non-grade-rated products. Furthermore, Excel’s proposed definition would exclude Jennmar’s own product from the scope of its own invention. *See Hoechst Celanese Corp. v. BP Chemicals, Ltd.*, 78 F.3d 1575, 1581 (Fed. Cir. 1996) (“it is unlikely that an inventor would define the invention in a way that excluded the preferred embodiment, or that persons of skill in this field would read the specification in such a way.”); *MBO Laboratories, Inc. v. Becton, Dickinson & Co.*, 474 F.3d 1323, 1333 (Fed. Cir. 2007) (such an interpretation is rarely, if ever, correct). The extrinsic evidence is far too insubstantial to overcome the patent language. Indeed, Shapkoff conceded that DSI uses the term “bearing plate” in the same manner as Jennmar and does not share Excel’s proposed new, but narrower definition.

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<sup>1</sup>The Patent language makes clear that the invention is intended to be used to provide both roof “and rib” support. Jennmar did not explain why it omitted the reference to “rib” support.

2. “Perimeter”

The parties also dispute the meaning of the term “perimeter.” Jennmar contends that no claim construction is needed because this is a common mathematical term, but proposes the following definition: **“boundary or outer limit around a piece or product.”** Excel argues that when there is a three-dimensional shape, such as where one or more of the edges is folded, the perimeter must reflect all of the edges in all of the dimensions. Thus, Excel proposes the definition: **“Edge or outer limit or free end around a piece or product.”** There is no dispute about that which constitutes the “perimeter” with respect to the three preferred embodiments of the ‘933 Patent. Because plates with rolled, looped and folded edges do not have a “free end” in that the “edge” is joined to the major surface, Excel agrees with Jennmar that the perimeter would be the outer limit. Excel’s definitional dispute arises only when a product (such as the Spider Plate) has a “free end.”

After careful and deliberate consideration, the Court finds that Plaintiff’s proposed definition of “perimeter” is the correct construction. The language of the Patent appears to use the terms “perimeter” and “periphery” as synonyms. *Compare, e.g.,* ‘933 Patent Column 4 (“safety edge 32 is formed around the peripheral section”) *with* ‘933 Patent Column 7 (“safety edge formed around the perimeter”). It is apparent that Jennmar did not intend to re-define the common, ordinary meaning of “perimeter” as a two-dimensional measurement. *See* Merriam-Webster Online Dictionary (which defines “perimeter” as “the boundary of a closed plane figure”).

The theoretical concerns of defense counsel about which two dimensions of a three-dimensional object should be measured need not be resolved in the context of this case. The plates described in the Patent are basically flat, square objects. If a plate were placed on a surface and a

line was drawn around the outer limit of it, that would commonly be understood to be the “perimeter.” Indeed, the Court takes judicial notice from Excel’s website that it markets a Spider Plate with the dimensions 17" x 17".<sup>2</sup> Jennmar’s Roof and Rib Plate is 18" x 18". It is a simple matter to determine which two dimensions will constitute the “perimeter” of the products at issue and the objections of defense counsel appear to be a “red herring.”

The proposed definition of Excel is fraught with difficulty, complexity and unnecessary ambiguity. Excel suggests three alternative definitions (“edge or outer limit or free end”) with no rule to determine how to choose among the alternatives. There is no principled way to determine when the “edge” becomes flush with or joined to the major surface such that it is no longer a “free end” and the “outer limit” becomes determinative. Similarly, as to objects in which all of the edges or free ends lean inward (for example, a pyramid shape), the definition of Excel would lead to the non-sensical result that the “perimeter” might be far smaller than the outer boundary. The common understanding is that the “perimeter” of a pyramid is measured around its base - the widest part. There is no indication that the ‘933 Patent intended to depart from this ordinary meaning. Moreover, Excel’s language is difficult to reconcile with the language of the ‘933 Patent Column 5, which describes an “end” that is “spaced from the perimeter,” a condition that could not occur under Excel’s definition if the “end” were the same as the “perimeter.” In summary, the Court agrees with Plaintiff that the term “perimeter” simply means the “boundary or outer limit around a piece or product.” The Court rejects the efforts of Excel to unduly complicate this term.

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<sup>2</sup>Interestingly, these dimensions do not change based on whether the Spider Plate has a standard, flat edge or a “curled edge.” It appears that, in the marketplace, Excel defines the term “perimeter” as Jennmar suggests, as opposed to the definition it proposes in this litigation.



3. “Between”

Excel proposes that the term “Disposed between the hole and the perimeter” means **“Located between, but not including, the hole and the edge of the bearing plate.”** Jennmar contends that the term “between” is self-evident and does not require any further construction. The Court agrees with Jennmar. “Between” is a common word with a well-understood ordinary meaning – located in the space that separates Point A from Point B. To the extent that Excel is attempting to argue that an object is not “between” if it touches either Point A or Point B, such argument is rejected. The Court finds that there is no need to further clarify the term “between” as the term is clear, has an ordinary meaning, and requires no construction.

4. “Circumscribing”

Jennmar proposes that “Circumscribing” means **“Encircling or surrounding in whole.”** Excel originally proposed a definition of **“Encircling or surrounding in whole or in part.”** Excel subsequently proposed to omit the last phrase, to avoid (or defer) the “in whole” versus “in part” dispute, such that the definition would simply be: **“Encircling or surrounding.”**

After careful and deliberate consideration, the Court finds that Excel’s revised construction is correct. There is no need to resolve whether the term “circumscribing,” when used alone, contemplates encirclement “in whole” or “in part” because, in the ‘933 Patent, the author uses the term “at least partially circumscribing.” (*see, e.g.*, Abstract, Column 1) Jennmar’s proposed definition would yield the awkward and self-contradictory reading “at least partially encircling or

surrounding in whole.” It is sufficient to construe “circumscribing” simply as “encircling or surrounding.”

#### 5. “Safety Edge”

The parties propose starkly different constructions of the term “safety edge.”

Jennmar proposes: **“Edge positioned over one of the major surfaces and spaced from the perimeter.”** Excel proposes: **“Smooth edge or end with no sharp edges accessible to touch.”**

Jennmar argues that Excel’s definition reads limitations into the claims that are not in the Patent.

The Court agrees with Jennmar’s proposed construction. The ‘933 Patent explains that the “safety edge” configurations, which involve ends that have been doubled over upon themselves, provide three benefits: (1) they “help to prevent injury from sharp edges”; (2) they “add additional strength to the outer periphery of the plates”; and (3) they “also aid in the stacking and destacking of the plates.” Column 3. The proposed definition of Excel is both over-inclusive and under-inclusive. It expands the “sharp edge” condition by adding a reference to “accessible to touch” that is totally absent from the Patent. Moreover, Excel’s proposed construction completely ignores the “peripheral strength” and “stackability” benefits that are expressly articulated in the Patent. Thus, the Court rejects Excel’s effort to equate “safety edge” with “no sharp edges accessible to touch.”

#### 6. Other Disputed Terms

The construction of the terms set forth above is dispositive of the remainder of the other disputed terms raised by the parties. Thus, the Court need not provide additional construction

as to the terms “Spaced from the perimeter of the bearing plate,” “End over one of the major surfaces and spaced from the perimeter of the bearing plate,” “Rolled,” “Looped,” “Folded,” “Rolled safety edge,” “Looped safety edge,” “Folded safety edge,” or “The end positioned over one of the major surfaces and spaced from the perimeter of the bearing plate to provide a safety edge formed around the perimeter of the bearing plate.” In addition, prior to the hearing, Excel agreed to Jennmar’s proposed constructions of “Rib member” as a “Concave or convex ridge in the bearing plate” and “Major surface” as the “Top or bottom surface.”

### **Conclusion**

For the reasons stated above, the Court construes the disputed terms as follows:

<b>CLAIM TERM</b>	<b>CONSTRUCTION of the COURT</b>
“Bearing Plate”	“A plate designed to be used with a single mine roof bolt to provide mine roof or rib support.”
“Perimeter”	“Boundary or outer limit around a piece or product”
“Circumscribing”	“Encircling or surrounding”
“Safety Edge”	“Edge positioned over one of the major surfaces and spaced from the perimeter”

So **ORDERED** this 16th day of July, 2009.

BY THE COURT:

s/Terrence F. McVerry  
United States District Court Judge

cc: All counsel of record (via CM/ECF)